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AUTHOR Schmit, Jack
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ABSTRACT

This study examined the process of college choice focusing on the earlier stages of the college choice process among 4,923 high school students (3,110 students participated by returning completed surveys) involving 21 high schools in Indiana. The study attempted to: (1) construct a mid-range model representing the search phase of the college choice process; (2) determine what factors accounted for the variance within this mid-range model; and (3) test the variables found in the model using a structural equations modeling technique. Study variables involved student background, attitudes, parental support, and search criterion. Among 11 conclusions were the following: female students appear to have a stronger commitment toward their after-high-school plans; male students receive more parental support than female students; fathers with lower levels of education provide more encouragement for their child's educational plans; and the search stage of student college choice has structure and can be represented by a mid-range model. A description is provided of the final empirical model that was developed from the study, followed by explanations of the influential impact of each of the variables on student search process. Recommendations for policymakers, secondary and postsecondary institutions, and researchers are provided. The appendix includes the student questionnaires developed for the study Contains a 104-item bibliography. (GLR)

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An empirical look at the search stage of the student college choice process.

Jack Schmit
Associate Director of Research and Development
Indiana College Placement and Assessment Center

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Presented at the 1991 ASHE Annual Meeting, Boston, MA, October 31 - November 3.

This research was conducted under the auspices of and in cooperation with the Indiana College Placement and Assessment Center (ICPAC). ICPAC is a comprehensive state-funded service that, under the direction of the Indiana Commission for Higher Education, encourages postsecondary participation, educational attainment, and career development. ICPAC developed the initial surveys and database management system that made this research possible.

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ASHE

Texas A&M University
Department of Educational
Administration
College Station, TX 77843
(409) 845-0393

ASSOCIATION FOR THE STUDY OF HIGHER EDUCATION

This paper was presented at the annual meeting of the Association for the Study of Higher Education held at the Park Plaza Hotel & Towers in Boston, Massachusetts, October 31-November 3, 1991. This paper was reviewed by ASHE and was judged to be of high quality and of interest to others concerned with the research of higher education. It has therefore been selected to be included in the ERIC collection of ASHE conference papers.

An empirical look at the search stage of the student college choice process.

Introduction:

This year (1990) in America, approximately 2.3 million new students will enroll as college freshman (Sheler, Toch, Morse, Heupler, & Linnon, 1989, p. 57) in, what is for many, one of life's most consequential rites of passage. For some, choosing a college is a painstaking process. For others, it is almost accidental. For another group, it is never a consideration (Change, 1986). The "complex, multistage process during which an individual develops aspirations to continue formal education beyond high school, followed later by a decision to attend a specific college, university, or institution of advanced vocational training" is known as 'student college choice' (Hossler, Braxton, & Coopersmith, 1989, p. 234).

Purpose of the Study

Many previous studies of student college choice focused on the *outcomes* of the college-selection process, which are extremely important to administrators and public policy makers if they are to make economically efficient decisions regarding student recruitment. However, in this study the focus was on the *process* of college choice rather than the *outcomes*. The study focused on earlier stages of the college choice process; theory holds that interventions are most critical during these earlier stages. Process considerations centered on the personal and social phenomena that affected the way the college choice process was conducted (Litten, 1982). Furthermore, this study looked specifically at the *search* stage of the larger model of student college choice. Since research is scant on the *search* phase, this was designed as an exploratory study.

The purposes of this study are to 1) construct a mid-range model which represented the *search* phase of the college choice process, 2) determine what factors accounted for the variance within this mid-range model of the search phase, and 3) test the variables in this model with a structural equations modeling technique.

A mid-range model was posited to represent the *search* stage of the choice process. The term 'mid-range model' was adapted from Merton (1957) who used 'middle range' theory as a means for describing a smaller part of a general theory (in Hossler, et al., 1989). This mid-range model included relevant variables that may advance understanding of the college selection process. The mid-range model also represented an expansion of an existing model of the college choice process.

The second purpose of the study was to determine the factors that accounted for the variance in the mid-range model of the search phase. In previous studies, little attention had been given to the factors associated with the search stage of student college choice. Many decisions affecting students' futures likely occur in the search stage. While extant research exists for the first and third stage of the process, predisposition and choice, respectively, more research is needed to highlight factors which affect the search phase.

A structural equations modeling technique was used to test the relationships among the dependent variable and the independent variables in the study. The independent variables included the amount of thinking a student has done about her/his plans after high school, the student's high school curricular track, who the student has talked with most about his/her after-high-school plans, what kind of support the student received from parents, the amount of reported parental support (non-material) for educational plans after high school, and the level of parental financial support for their child's education, student gender, student grade point average, student ethnicity, and the level of parental education. The dependent variable, titled 'search', was constructed of three variables. These variables included how much a student had thought about her/his after-high-school plans, the number of postsecondary educational institutions she/he listed on her/his survey, and the student's preferences toward characteristics related to postsecondary institutions.

Finally, the structural equations modeling technique used in this study attempted to illumine and clarify relationships among variables. The advantage of this technique was to test a proposed model that could measure complex relationships while providing suggested modifications for improving the model. Through this technique, the author

attempted to identify the primary causal relationships in the search stage of the college choice process.

Theoretical Framework

The major development of college choice models began in two academic areas. Economists began to view college choice from a rational, economic view. The college choice decision, according to economists, is explainable by a rational investment model in which aspiring students determine the rate-of-return on a college education before deciding to attend (Jackson, 1982). While economists look toward income differences of college graduates and non-college workers, sociologists view college choice from the status attainment perspective. The status attainment literature focuses on how parents' status levels affect future plans of their children. From the sociological perspective, parental variables and student background characteristics are deemed important.

While these two perspectives dominated the early research of college choice, each perspective could benefit from aspects of the other. As a result, models which combined the econometric and the sociological theories were developed mainly in response to the strong correlations between income and status attainment. Combined views utilized the theoretical frameworks described above while adding other factors in the pursuit of a larger, more encompassing theory.

Combined models of student college choice provided a perspective that recognized the *developmental nature* of the college choice process. Several models of student college choice assume that college choice is a developmental process (D. Chapman, 1981; R. Chapman, 1984; Jackson, 1982; and Litten, 1982). The advantage of developmental college choice models is that they enable researchers and policy makers to focus on specific stages of the college choice process. Since the present study focuses on a specific stage of the college choice process, the combined models are most applicable to this research. The combined models have typically identified three or more stages in the college choice process. Major contributors of combined models include D. Chapman's Conceptual Model (1981), which was one of the first descriptive models of college choice; Jackson's Three Phase Model (1982), which includes a preference phase,

an exclusion phase, and a choice phase; Litten's Three Phase Model (1982), which includes the predisposition phase, the exploratory stage, and the application/ matriculation stage; R. Chapman's Behavioral Model (1984), which includes a series of five interrelated phases; and the Hossler and Gallagher Three-Stage Model (1987).

The theoretical framework used for this study was the college choice model advanced by Hossler and Gallagher (1987). This model drew upon previous models of college choice by D. Chapman, (1981); R. Chapman, (1984); Jackson, (1982); and Litten, (1982). These models suggested that student college choice could best be viewed as a developmental process spanning many years of information gathering and decision-making.

Hossler and Gallagher's (1987) Three-Stage Model

The Hossler and Gallagher model postulates that students move toward an increased understanding of their postsecondary educational options as they progress through high school. In this model, the first stage of the student college choice process is called the **predisposition** stage. During this developmental stage, a student determines whether she or he would like to continue his or her education beyond high school. A student progresses to the next stage of the process when he or she makes the decision to consider, that is, to become predisposed, toward postsecondary attendance. Theoretically, the interaction of student characteristics and environmental variables such as socioeconomic status, student ability, achievement, race, and gender have an effect upon the aspirations of the student.

Once a decision has been made to consider postsecondary options, the student moves to the second developmental stage, called **search**. The search stage consists of information gathering activities used in investigating postsecondary alternatives. This stage may begin with listening passively to information about postsecondary opportunities; students may store these bits of information in mind for later use. The search stage has been characterized by Hossler and Gallagher as a period when increased 'interaction between potential matriculants and institutions' occurs (p. 9). Students search for institutions with relevant attributes. The student moves into the third

stage of the process when he or she selects a set of institutions for consideration.

In the **choice** stage of the Hossler and Gallagher model, students evaluate the set of institutions selected for consideration. This evaluation process allows the student to narrow down his or her selection to a specific institution or set of institutions to which he or she will apply. The process is complete when the student receives acceptance letters and selects an institution to attend.

The model-building effort of this study was an attempt to extend previous models of student college choice. Hossler and Gallagher (1987) suggested that the next step to advance the study of college choice should be focused on a specific stage of college choice. Following this suggestion, this study focused on the search stage of college choice.

Search

During this critical stage, many variables affect decisions about postsecondary alternatives. A student enters the *search* stage upon aspiring to postsecondary education. The term 'aspiration' appears to be the key to movement from the earlier predisposition phase to the search phase (R. Chapman, 1984; Hossler and Gallagher, 1987; Jackson 1982). Aspiration is described as an activity that comes from the depths of personal experience and expresses an individual's hopes about the future (D. Chapman, 1981; Tyson, 1984). A student who is thinking about education after high school is said to have aspirations for postsecondary education.

What is important to note at this point is the nature of these aspirations. Aspirations are not necessarily rooted in reality. Many students aspire for careers that require more academic ability and discipline than the students possess; other students may aspire to attend postsecondary institutions beyond their financial means; some students may include postsecondary institutions in their choice set that do not have the academic program (major) needed to reach their career goal. What likely occurs in the search stage of the student college choice process is the blend of *aspirations* and *reality* into educational *expectations*. Students in the search stage begin to test their aspirations and abilities against an array of postsecondary options. These educational expectations

become the template for selecting postsecondary institutions to include in the choice set.

The search stage appears to be the critical time period for students to move toward actualizing aspirations. According to the results of a statewide survey of Indiana ninth-grade students, eighty-three percent of the students who returned the survey indicated postsecondary educational aspirations (Weber, 1990). Unless there is a dramatic change in the intervening years, only half of these aspirants will matriculate (Hossler & Schmit, In progress). It is clear that something occurs during these critical years that diminishes the aspirations of a significant portion of Indiana young people. A closer look at the search stage may suggest interventions that could result in more students fulfilling her or his aspirations.

Population and Sample

This study builds upon an existing database gathered by the Indiana College Placement and Assessment Center (ICPAC)[1]. The ICPAC database included a longitudinal study of 4,923 high school students from twenty-one high schools in the state of Indiana. These students were part of a large-scale postsecondary encouragement program in Indiana and represented the range of students within the state. Students began participation in this study as ninth graders and are now part of a five-year longitudinal study funded by the Lilly Endowment.

Since the study focuses on the search stage of student college choice, only students who were predisposed to attending some form of postsecondary education were selected from the sample for inclusion in the study. The students were selected if they had indicated any form of postsecondary plans for education after high school. This was based on the student question in Survey One which asked, What is the highest level of education you expect to achieve?. The selection of the sub-sample is consistent with the Hossler and Gallagher Model (1987), which describes predisposition as the student's

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[1] This research was conducted under the auspices of and in cooperation with the Indiana College Placement and Assessment Center (ICPAC). ICPAC is a comprehensive state-funded service that, under the direction of the Indiana Commission for Higher Education, encourages postsecondary participation, educational attainment, and career development. ICPAC developed the initial surveys and database management system that made this research possible.

decision or aspiration to continue his/her formal education after high school. The sub-sample contained 642 respondents.

Data Collection

In January of 1987, Student Survey One and Parent Survey One (see Appendix A) were mailed directly to ninth-grade student households (N=4,923) of the 21 high schools. The parent and student surveys were mailed together. The initial return rate for student questionnaires was 50.2% (2,470 respondents). Attempts were made to increase the return rate; these included a second mailing of surveys to nonrespondents (February 1987) and a telephone interview of a sample of non-respondents (N=125) by the Center for Survey Research at Indiana University. These attempts increased the response rate to 63% (3,110 surveys).

Hossler and Stage (1988) found no significant difference between the respondents from the telephone and the survey response groups on the demographic characteristics of gender, ethnicity, and parental martial status. African American respondents were actually more likely to have returned the survey although the differences were not significant. There were significant differences in parental educational status, parental occupational status, and family income levels. Parents of the telephone response group generally had lower expectations for their child's education. Additionally, students who were undecided or not planning to attend a postsecondary educational institution were less likely to return the surveys. While these results indicate some differences between the two groups, the sub-groups identified above are represented in the ICPAC data set and should therefore provide generalizability across the larger population.

In February of 1987, Student Survey Two and Parent Survey Two (see Appendix B) were mailed to 3,110 households who responded to Survey One. The return rate on the second survey was 44%. No additional attempts were made by ICPAC to increase the return rates for Survey Two.

Approximately one year later, in April of 1988, Student Survey Three and Parent Survey Three (see Appendix C) were mailed to the same students and parents as Survey

Two (N=3,080)[2]. Survey 3 students were in tenth grade. The initial response to Survey 3 was 21% or 646 respondents. The response rate was increased to 28.5% (N=877) after subsequent communications, which included a postcard reminder (May 1988) and a second mailing of questionnaires to nonrespondents (June 1988).

While the response rate was lower than anticipated (28.5% on Survey Three compared to 63% on Survey One), another generalizability study compared the original sample group with the subsample (Hossler & Stage, in press). The study showed very similar results between both groups. Virtually the same educational levels of parents were represented in the two groups. Twenty-four percent of the fathers in both groups had completed at least a bachelor's degree while 17% of the mothers in the original sample and 18% of the subsample had completed a bachelor's degree. For both sample groups, 71% of the parents were married and had 1.23 number of children enrolled in postsecondary education.

Minority students, who were overrepresented in the original study, were slightly underrepresented in the subsample (10% compared to 7%)[3]. Finally, the aspiration level for parents and students were similar for both groups. Sixty-eight percent of the parents in the original sample and 69% in the subsample had aspirations of at least a bachelor's degree for their children. The students in the original sample who expected to earn at least a bachelor's degree was 63% while the subsample was 64%.

Instrumentation

This study includes a set of matched surveys from students and their parents. The initial survey instruments were developed by the Indiana College Placement and Assessment Center in consultation with a panel of experts in student college choice research and survey research methodology. Many of the questions on the surveys were adapted from previous research on student college choice. These questions included

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2 The lower figure (from 3,110 to 3,080) was due to undeliverable mail from previous surveys.

3 Minority students in this study are largely African American students. The number of non-African American minority students in Indiana is small.

demographic items such as family size, ethnicity, educational background, occupation, and family income. Other items in the surveys related to characteristics of postsecondary educational institutions. Much of the literature on the latter stages of the college choice process focus on the relationships of characteristics such as institutional size, distance from home, reputation, and cost, with college choice. The panel of experts theorized that these characteristics might inform ICPAC about the types of information needed by ninth grade students.

The development of the third set of questionnaires occurred in a similar fashion, with consultation and advice from members of the expert panel. This set of questionnaires included a mixture of items from surveys one and two plus the addition of new questions (see Appendix C). This mixture of questions enabled the investigator to track the stability of postsecondary aspirations and to introduce new questions related to the middle stage, the search stage, of student college choice. The questionnaires were field tested with tenth-grade students and parents for face validity and comprehension. Modifications to the surveys were made based on the suggestions received.

The questionnaires (three student and three parent) were administered over a two-year period and covered a wide range of concerns thought to be associated with student college choice. The survey items drawn from the six questionnaires and theorized to be relevant to the search stage of student college choice are described in detail in the following section.

Measurement of Variables

The variables selected for inclusion in this *search* model have been associated with postsecondary participation in the student college choice literature. It should be noted, however, that this association has not been specifically related to the search stage of the college choice process. As these variables have been found to be associated with either the predisposition or choice stages, the investigator included them in this study's model of the search phase.

Each of the variables described below is reflected in specific questions from the surveys. The variables included in this study and the theorized relationships among the

variables are represented in Figure 1. The variables can be grouped into four types: 1) background variables, 2) student attitude variables, 3) parental support variables, and 4) the search, or criterion variables. The structural relationship among the variables is discussed later in a section on Statistical Procedure--LISREL Analysis.

Background Variables

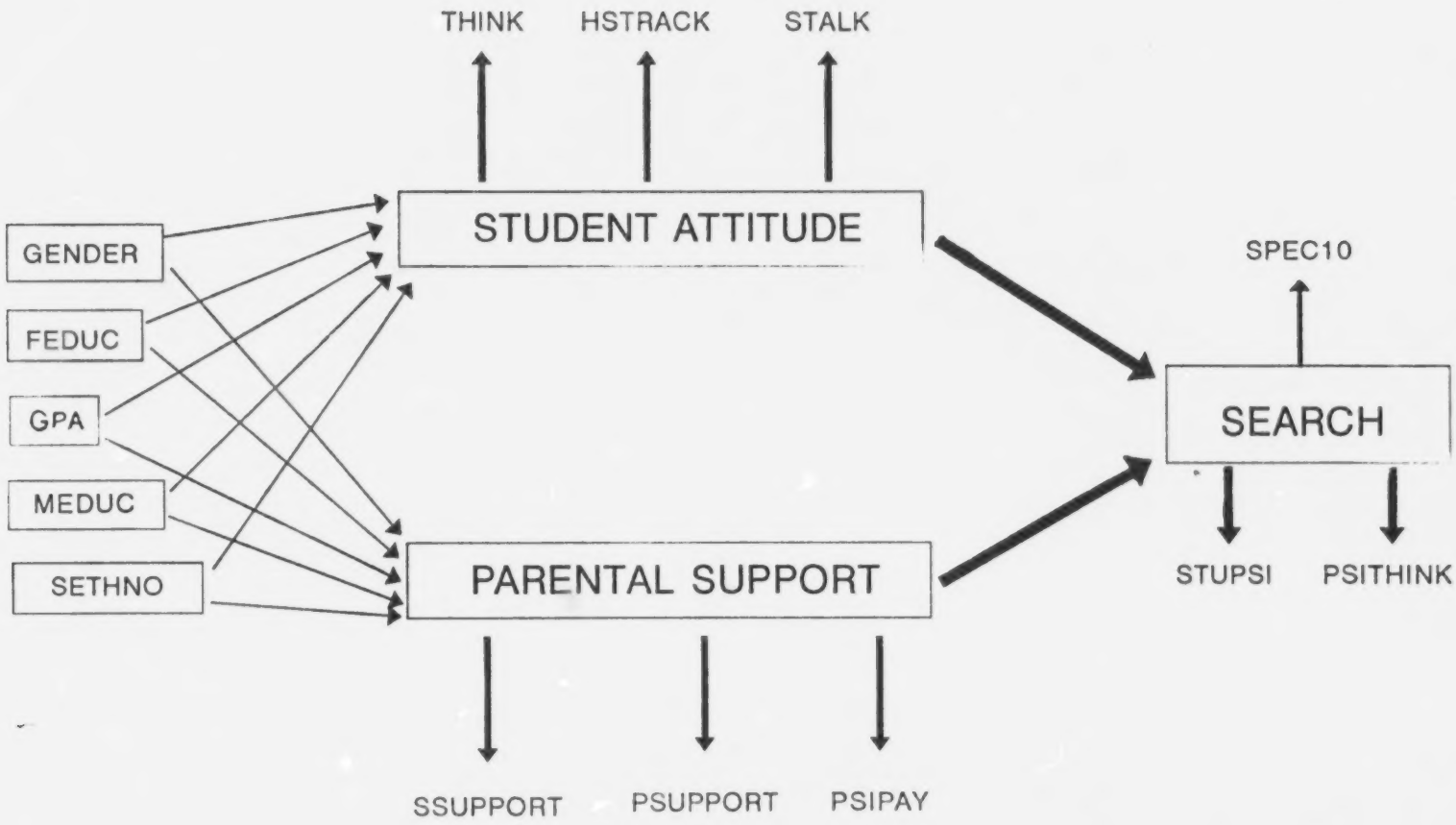
The background variables included in this study are outside the main model but are theorized to affect variables in the main model. These variables are gender (Hanson & Litten, 1982; Hossler & Stage, 1987; Stage & Hossler, 1989), parental educational levels (Carpenter & Fleishman, 1987; Hossler & Stage, 1987; Jackson, 1986; Litten, 1982; Solomon & Taubman, 1973, Tuttle, 1981), grade point average (Bishop, 1977; Jackson, 1986; Jackson, 1982; Tillery, 1973), and the student's minority status (Litten, 1972; Manski & Wise, 1983). These variables, posited to be factors in the student college choice process, had not been attributed specifically to the search stage. The investigator posited that these variables contributed to this proposed mid-range model through other variables specified in the model.

Student Attitude Variables

The variables from the students' questionnaire used to measure student attitude are represented by the following questions.

How much do you think about your plans after high school? In this model, the question is represented by the variable name THINK. The THINK variable is measured using a 4-category scale ranging from a great deal to not at all. The investigator posited that *students who think more about their plans after high school* is a variable that jointly affects the STUDENT ATTITUDE construct in this mid-range model of search.

What type of high school courses are you currently enrolled in? In this model, the question was represented by the variable name, HSTRACK. The HSTRACK variable was measured using a 3-category scale including college track, vocational/technical track, and



9th Grade

10th Grade

Figure 1. *Mid-Range Model of Search*

general track. The investigator posited that *students enrolled in a college preparatory high school curricular track* is a variable that jointly affects the STUDENT ATTITUDE construct in this mid-range model of search.

Who have you talked with most about your plans after high school?
In this model, the question is represented by the variable name STALK. The STALK variable is measured using an 8-category scale that includes parents, friends, and school personnel. The investigator posited that *students who talked more with parents about their postsecondary plans* is a variable that jointly affects the STUDENT ATTITUDE construct in this mid-range model of search.

Parental Support Variables

The variables from the parents' questionnaire used for the parental support variables were represented by the following questions. Responses and variable names associated with these variables are in Appendix F.

How much encouragement have you given your son or daughter to continue his or her education after high school? In this model, the question was represented by the variable name PSUPPORT. The PSUPPORT variable was measured using a 5-category scale ranging from strongly encouraged to strongly discouraged. The investigator posited that *parental encouragement* is a variable that jointly affects the PARENTAL SUPPORT construct in this mid-range model of search.

The cost of attending college (excluding room and board) can be very different for different types of schools. From the range of costs below, please indicate how much you might be willing to spend to send your son or daughter to a college or vocational school. In this model, the question was represented by the variable name PSIPAY. The PSIPAY variable was measured on a 7-category scale ranging from $1,000 to more than $10,000. The investigator posited that *a higher degree of financial support from parents* is a variable

that jointly affects the PARENTAL SUPPORT construct in this mid-range model of search.

How much encouragement (support) from your parents have you received to continue your education after high school? This variable was from the students' questionnaire and is theorized to affect the parental support variable. In this model, the question was represented by the variable name SSUPPORT. The SSUPPORT variable was measured using a 5-category scale ranging from strongly encouraged to strongly discouraged. The investigator posited that *a higher degree of perceived parental support* is a variable that jointly affects the PARENTAL SUPPORT construct in this mid-range model of search.

Search Variables

The variables from the students' questionnaire used as joint indicators for the search variable were represented by the following questions.

If you are planning to continue your education after high school, have you thought about what colleges or vocational schools you might attend? In this model, the question was represented by the variable name PSITHINK. The PSITHINK variable was measured using a 4-category scale ranging from a great deal to not at all. This study posited that *the degree to which a student thought about colleges or vocational schools he or she might attend* is indicator of the SEARCH construct in this mid-range model of search.

If you have thought about where you would continue your education, please write the names of the colleges or vocational schools that you have thought about attending. In this model, the question was represented by the variable name STUPSI. The STUPSI variable accounted for the number of institutions a student listed on his or her survey and was measured by a 6-category scale ranging from 0 institutions listed to 5 institutions listed; the survey allowed five lines for entry of institutional names. The investigator posited that *the number of institutions listed* is an indicator of the SEARCH construct in this mid-

range model of search.

Questions 15 through 22 will describe some facts about colleges and vocational schools. These eight questions included such institutional characteristics as distance from home, school costs, school size, school's reputation, etc. The responses for these questions were measured on a 5-point Likert-type scale ranging from very important to not important. SPEC10 was created by summing the responses from each question. The sum of these questions was divided by eight to produce an average score defined as the student's specificity criterion in the tenth grade, or SPEC10. The SPEC10 variable was recoded from a continuous variable to a 6-category scale ranging from not specific to very specific. The investigator posited that *students who have very specific opinions about colleges or vocational schools* is an indicator of the SEARCH construct in this mid-range model of search.

Search model

The variables from the student and parent questionnaires were represented in this model of the search phase of student college choice, a model employing latent variables. This model included background characteristics and posited the relationships among all variables. Typically, structural equation models are based on explicitly measured variables.

The structural equations model, based on the statistical procedure LISREL, utilizes latent, unmeasured constructs. The LISREL model in its most general form assumes that there is a causal structure among a set of latent variables. In LISREL, variables are termed measurement variables and can be combined to represent latent variables, which are theorized to have a direct effect on the dependent variable (Jöreskog & Sörbom, 1984).

The dependent variable in this study was termed SEARCH. Operationally, this dependent variable was defined by three measurement variables. The first measurement variable was the survey question that asked *whether the student thought about*

postsecondary schools she or he might attend (PSITHINK). A greater level of thinking about the school(s) she or he might attend is a variable that may contribute to the SEARCH construct in this mid-range model of search. The second measurement variable was represented by *the number of institutions a student indicated on his or her survey*. The author theorized that a student in the search phase of college choice would list more institutions on her or his survey. The final measurement variable for the dependent variable was the specificity variable (SPEC10). The author theorized that *students with great amounts of specificity in the tenth grade* is a variable that may contribute to the SEARCH construct in the mid-range model of search. The dependent variable in this study was SEARCH as represented by three measurement variables and theoretically affected by latent variables (STUDENT ATTITUDE and PARENTAL SUPPORT) in the causal chain.

Statistical Procedure -- LISREL Analysis

The focus of this study was a mid-range model of the search stage of student college choice. This model was analyzed using LISREL, which is the acronym for the analysis of LInear Structural RELationships by maximum likelihood, instrumental variables, and least squares methods. Jöreskog and Sörbom (1984) described LISREL as a computer program for estimating the unknown coefficients in a set of linear structural equations. LISREL analysis extended regression analysis and analysis of variance to estimate more complex models (Stage, 1990).

LISREL was selected for this study since it was similar to path analysis but required fewer restrictions on the variables being analyzed. This was necessitated by the basic nature of this research and the complex model that resulted from the review of literature. The purpose of this research was to test a detailed theoretical model of the search stage of student college choice, and this testing process required the ability to make adjustments in the model with the guidance of an analytical procedure. LISREL provides such guidance as it utilizes data to assist in refining the model for 'goodness-of-fit'.

For this study, LISREL VI was used as a USERPROC (user procedure) within

SPSS-X[4]. Prior to setting the parameters for the LISREL program, an SPSS system file was created. Several SPSS analyses produced frequency counts used as consistency checks with previous research using the first year data (see Hossler and Stage, 1987; Stage and Hossler, 1989).

The next step involved defining initial parameters for the LISREL analysis. LISREL was programmed to read raw data within SPSS-X using a covariance matrix. The parameters within LISREL allow the use of pairwise deletion or listwise deletion to restrict the data. In listwise calculations, each covariance is based on all the cases (respondents) having information available on all the variables included in the model; pairwise is less restrictive and produces covariances for only the relevant pair of variables (Hayduk, 1987, p. 326). The original sub-sample contained 642 cases, however, the number of valid cases was restricted to 478 with the use of the more restrictive, listwise covariance matrix.

The means, variances, and covariances of the measured variables were calculated and represented the known data. In the covariance matrix, the three variable sets with the highest correlations were: 1) mother's educational level and father's educational level (MEDUC-FEDUC), 2) father's educational level and parental willingness to pay for specified amount of postsecondary school costs (FEDUC-PSIPAY), and, 3) the number of postsecondary educational institutions listed by the student and the amount of thinking a student had done about schools (STUPSI-PSITHINK). All three sets were theoretically consistent as represented by the mid-range model of search (see Figure 1); mother's education and father's education were both exogenous variables; father's education had been freed to affect the PARENTAL SUPPORT construct; the PARENTAL SUPPORT construct was jointly measured by PSIPAY; and STUPSI and PSITHINK were joint indicators of the SEARCH construct.

The means, variances, and covariances of the latent constructs (STUDENT ATTITUDE, PARENTAL SUPPORT, and SEARCH), the relationships among the latent constructs, and the relationships linking the constructs to the measurement

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[4] SPSS-X is the acronym for Statistical Package for Social Sciences, Version 10.

variables were unknown and estimated using LISREL. These represented LISREL's three basic equations. The model was specified using the eight matrices. The first four (Beta, Gamma, Lambda-X and Lambda-Y) are matrices of structural coefficients that come directly from the three basic equations.

Beta represents the relationship between the latent constructs, while Gamma links the exogenous variables with the endogenous (or latent) constructs. Lambda-Y links the endogenous (or latent) constructs to the endogenous (or measurement) indicators. Since this model had no exogenous latent constructs (only exogenous measurement variables), Lambda-X which links exogenous constructs with exogenous indicators was not used.

Phi, psi, theta epsilon, and theta delta are the remaining matrices and are all variance/covariance matrices. The Phi matrix contained the variance/covariances among the five exogenous variables in the study - gender, feduc, GPA, meduc, and ethnicity. In this model, the exogenous variables are all single-indicator variables, therefore, the Phi matrix contained all zeros and utilized the correlations with which the program started (Stage, 1990). Psi, theta-epsilon, and theta-delta are matrices for the residual covariance terms. Theta Delta was not needed since the exogenous variables were single indicator variables.

The model (see Figure 1) posited that the latent constructs of STUDENT ATTITUDE and PARENTAL SUPPORT were joint indicators of search. No relationship between student attitude and parental support was indicated in the initial analysis. The exogenous variables, that were outside the model, were freed to estimate effects on STUDENT ATTITUDE and PARENTAL SUPPORT (as signified by the arrows) but not on the search construct. It was theorized that the exogenous variables would indirectly affect search through the STUDENT ATTITUDE and PARENTAL SUPPORT constructs.

Research Questions

This study is guided by research questions related to the development of a mid-range model of the search phase of student college choice. This mid-range model is a result of the review of literature and reflects the use of surveys administered in this

exploratory study of Indiana high school students. The questions that follow are related to the variables selected for inclusion in the study. Using LISREL to test the proposed mid-range model requires research questions related to the contributions each variable makes to the overall model. The purposes of this research were to propose a mid-range model of search, determine what factors accounted for the variance within this model, and test these variables with a structural equations modeling technique. The following research questions guided this analysis:

Question 1: Do the following variables associated with the STUDENT ATTITUDE construct make a significant contribution to this mid-range model of search?

a. students who think a great deal about their after-high-school plans,
b. students who take a college-track high school curriculum, and
c. students who talk more with their parents about their after-high-school plans.

Question 2: Do the following variables associated with the PARENTAL SUPPORT construct make a significant contribution to this mid-range model of search?

a. students' who perceive higher levels of parental encouragement for their after-high-school plans,
b. students' whose parents indicate higher degrees of encouragement for the student's after-high-school plans, and
c. parents' willingness to spend larger amounts of resources for postsecondary education.

Question 3: Do the following factors associated with the SEARCH construct make a significant contribution to this mid-range model of search?

a. students' with a preference for institutional size, location, distance from home, reputation, social activity programs, cost, school that parents like, and school with good job placement;
b. students' who have thought about what institutions they might attend; and
c. students' who have listed specific postsecondary institutions that are of interest.

Question 4: Do the background factors of student gender, student grade point average, student ethnicity, and parental levels of education, make a significant contribution to this mid-range model of search?

Question 5: Does this proposed mid-range model of search make a significant contribution to the understanding of the search stage of student college choice?

Results

Jöreskog and Sörbom (1984) describe several assessment tools, available from the LISREL analysis, for assessing an acceptable fit of the model with the data: 1) the covariance matrix, 2) squared multiple correlations, 2) modification indices, 3) the chi-square measure, 4) the goodness-of-fit index, and, 5) the root mean square residual index. The LISREL analysis that follows discusses each of the tools in relation to the analysis.

The first task in reviewing the LISREL analysis was to examine the results to determine what quantities or coefficients had unreasonable values. According to Jöreskog and Sörbom (1984), unreasonable values are negative variances, correlations greater than one in magnitude, and covariance or correlation matrices which are not positive definite (p. I. 36). If unreasonable values were present, there may be a fundamental error within the model. Careful review of the indicators found all values in each matrix within acceptable range.

Another indicator of a successful LISREL program run was squared multiple correlations. Jöreskog and Sörbom (1984) designed LISREL to provide squared multiple correlations for each measurement variable *separately* plus coefficients of determination for all the observed variables *jointly* (as measured through latent constructs). They defined squared multiple correlations as a measure of the strength of relationship, and the coefficients of determination as a measure of the strength of several relationships jointly (p. I. 37). Values for the squared multiple correlation coefficient should lie between zero and positive one.

In an earlier run, the squared multiple correlations for the Y-variables were all within the range specified (zero and positive one). However, the squared multiple correlations for the structural equations (or the latent variables) had one measure out of range. The SEARCH variable had a coefficient of 1.044. A coefficient above positive one indicated instability of the model. While the coefficient for the search construct exceeded the acceptable range, the program produced the output requested. This output suggested that the model successfully converged but the coefficient of 1.044 indicated instability of the model. The output provide guidance in resolving the instability problem

on the search construct.

After examining the indices, the option to free the causal path between the PARENTAL SUPPORT latent construct and the STUDENT ATTITUDE construct was judged to be theoretically sound. This was consistent with the college choice literature since parental support has been positively correlated with student aspirations toward postsecondary education (Gilmour, et al. (1978), Ekstrom (1985), Hossler and Stage (1988), and Parents, Programs, and Pennsylvania Students (1984).

A freed causal path between PARENTAL SUPPORT and STUDENT ATTITUDE produced squared multiple correlations within the range specified for an acceptable model. All squared multiple correlation coefficients were within the range of zero and positive one.

Once a stable model had been identified, several goodness indicators were used to examine the fit of the model to the data. These indices were the chi-square measure, the goodness-of-fit index, the adjusted goodness of fit index, and the root mean square residual index.

In the final run of the analysis, the chi-square to degrees of freedom ratio was 1.94 to 1. According to Jöreskog and Sörbom (1984), the recommended ratio of chi-square to degrees of freedom should be less than 2.5 to 1, which was true for this model. The goodness-of-fit index for this model was 0.968. The goodness-of-fit index measures the relative amount of variance and covariance explained by the model. The closer to 1, the better fit of the model to the data (Stage, 1990). The adjusted goodness of fit index for this model was 0.940.

The final measure for determining the fit of the model was the root mean square residual. The root square mean residual should be closer to zero for a strong model. The residual was 0.041 for this model and within the desired range.

Discussion

The final empirical model, presented in Figure 2, describes the significant paths in the model. The goodness-of-fit indicators, described in the previous section, provided measures of a stable and converged model. A description of the influence of each set of

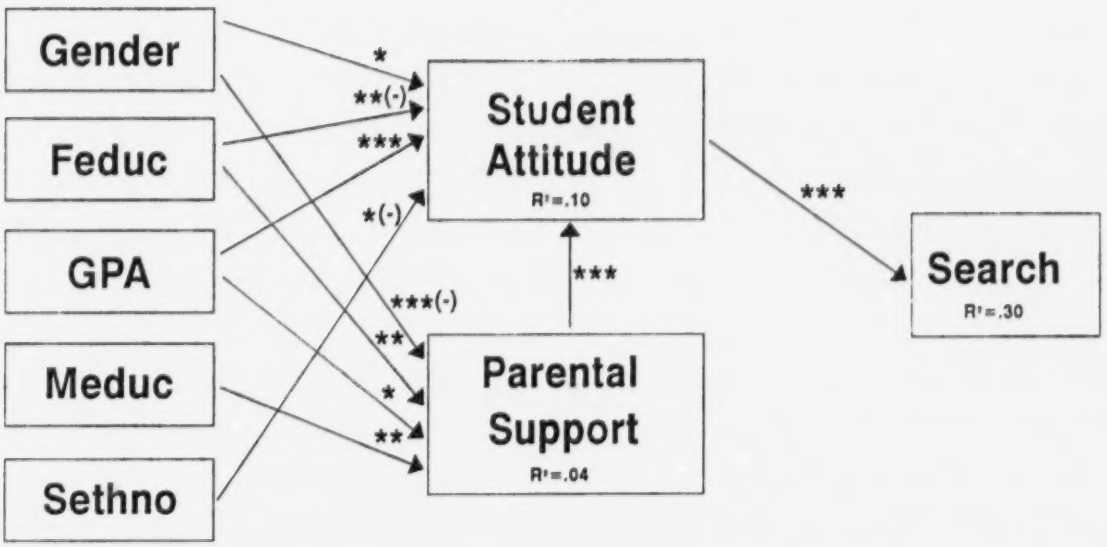

Figure 2. Reduced Path Model of the Search Mid-Range Model.

variables within the model will be discussed. The results begin with the background characteristics, which were freed to estimate the influence on the two latent constructs of student attitude and parental support.

The Influence of the Background Characteristics

In the initial model, the background characteristics (gender, father's educational background, mother's educational background, student self-reported GPA and the student's ethnic background) were theorized to affect student attitude and parental support. What follows is a discussion of the paths from the background variables to the latent endogenous constructs of STUDENT ATTITUDE and PARENTAL SUPPORT. The STUDENT ATTITUDE construct was measured with survey questions about the amount of thinking a student does about his or her plans after high school, the high school curricular track the student was enrolled, and the person(s) the student talked to the most about his or her plans after high school. The variables were measured so that a student who thought more about after-high-school plans, who was enrolled in the college-prep track, and who talked more with parents about plans after high school would have a stronger student attitude toward postsecondary educational planning. Furthermore, the PARENTAL SUPPORT construct was measured by survey questions about the amount of support that a student reported receiving from his or her parents, the amount of parental support for a student's after-high-school plans as reported by the parent, and the amount of money parents would be willing to pay for their child's education. A high value on the PARENT SUPPORT construct would be indicative of a student who reports strong encouragement from his or her parents, parents who report strong encouragement for their student's plans, and parents who are willing to spend a greater amount for their child's education.

In the final model (see Figure 2), gender was significantly and negatively related to the PARENTAL SUPPORT construct, at the $p<.001$ level. This suggests that female students may have less parental support than their male counterparts and is consistent with previous research. Additionally, gender was significantly and positively related to the STUDENT ATTITUDE construct, at the $p<.05$ level, suggesting that while males

receive greater support from parents for postsecondary aspirations, females in the tenth grade have a stronger interest in planning for college.

The second background variable was father's level of education. This variable was significantly and negatively related to the STUDENT ATTITUDE construct but positively and significantly related to the PARENTAL SUPPORT construct; both were significant at the $p<.01$ level. The measurement variable for father's education produced a larger value for more education completed.

The results on the relationship between father's level of education and STUDENT ATTITUDE suggest that having a father with higher levels of education, directly and negatively affects the student's attitude in the search stage model of student college choice. This inverse relationship may be explained by the indirect effect of father's education as mediated through the PARENTAL SUPPORT construct. Father's education was positively and significantly related to the PARENTAL SUPPORT variable.

Conversely, father's with lower levels of education appear to support student aspirations to a greater extent than fathers with higher levels of education. This suggests that a less-educated father has a greater impact on the student's thinking about plans after high school, on the high school curricular track the student is in, and on the amount of talking with his children. Regarding the relationship between father's level of education and PARENTAL SUPPORT, the results suggest that a father with lower levels of education may have less money to invest in his child's education. This relationship is unclear since a student could continue to feel supported by his or her parent and the parent could report a high degree of support, yet, the resources may not be available for supporting education. This may reduce the effect of this latent construct on the dependent variable, SEARCH.

Mother's educational background was not directly related to the STUDENT ATTITUDE construct. The relationship between these two variables was negative, similar to the father's level of education, but the relationship was not significant. However, the relationship between mother's level of education and the PARENTAL SUPPORT construct was significantly and positively related (at $p<.01$). This suggests

that the effect of mother's education on the search stage of student college choice may be indirect through parental support. The results of the analysis on the parental education variable prompted a closer look at the measurement variable, PSUPPORT. The PSUPPORT variable was measured by how much encouragement a parent reported giving to his or her son or daughter for continued education after high school. The responses ranged from strongly encouraged to strongly discouraged. The surveys administered in this study did not ask which parent was filling out the survey in relation to the student filling out his or her survey. However, this question *was* asked for the past three years in ICPAC's annual survey of 9th grade students (Weber, 1990). In each year, the percentage of mothers filling out the parent survey was 67% while the percentage of fathers filling out the survey was 25%. Since the sub-sample of this study is representative of students who return surveys, the proportion of mothers filling out the parent survey would be similar to the ICPAC survey results. With this assumption, the PSUPPORT variable would more likely represent a mother's support for her child's education rather than a combined support of father and mother. This may have contributed to the decreased affect of mother's education on the student attitude construct since most of the impact of mother's education would be centered in the parental support variable.

Student grade point average was significantly related to both latent constructs. Student GPA was positively related to STUDENT ATTITUDE at the $p<.001$ level. This suggests that a student with higher grades in tenth grade would have more positive student attitude about postsecondary educational planning. Student GPA was positively and significantly related to PARENTAL SUPPORT but at the $p<.05$ level of significance. Parents likely view grades as important to future plans but not to the same degree as students.

Ethnicity, defined as majority/minority, was not related to parental support but was significantly and negatively related to student attitude. This suggests that minority students are more likely to have a positive attitude about postsecondary educational plans. It is not clear what this means for the SEARCH construct since a direct path was not indicated nor suggested by the LISREL analysis between this construct and ethnicity.

It should also be noted that the number of minority students in the sample was small, however, others have found higher aspirations among minority students (Brown, 1982; Hossler & Stage, 1987).

The Influence of Student Attitude and Parental Support Factors

As depicted in the model (see Figure 2), STUDENT ATTITUDE was significantly related to the dependent variable, SEARCH. PARENTAL SUPPORT, which was not originally depicted as related (see Figure 1), was significantly related to STUDENT ATTITUDE. Both standardized scores were significant to the $p<.001$ level. While the relationship between PARENTAL SUPPORT and STUDENT ATTITUDE was not estimated in the initial model, the relationship does confirm the literature on the effects of parental support and encouragement. An unexpected result was the relationship between the parental support construct and the search construct. There was no significant relationship as depicted in the initial model. One explanation is that the strong relationship between parental support and student attitude suggests that parental support may have an indirect effect on search mediated through the student attitude variable. Since the parent most likely to fill out the survey is the mother, the results would be consistent with other research on the impact of mother's support on her child's educational plans.

In summary, the model explained 30% of the variance for this group of tenth graders. The model explained 10% of the variance in STUDENT ATTITUDE but only 4% in PARENTAL SUPPORT. Overall, this model was stable and illuminated the search stage of student college choice.

Discussion

The research questions theorized that the constructs and variables in this study would coalesce to form the basis of a proposed mid-range model of search. Since no search model existed before, this was an exploratory study. This model was an attempt to empirically measure the search stage and provide guidance for further study of this developmental stage.

The reduced path model presented in Figure 2 highlights the significant paths among the variables within the model. In reviewing the model, the variables in Figure 7 will be discussed in the following order: 1) background variables, 2) the STUDENT ATTITUDE construct, 3) the PARENTAL SUPPORT construct, 4) the SEARCH construct, and the contribution of the model as a whole. This differs from the sequential order of the research questions but will aid in understanding the results of this study.

The first set of variables were represented in Question 4 which questioned the contributions of the background variables to this mid-range model of search. The question was framed thus:

Question 4: Do the background factors of student gender, student grade point average, student ethnicity, and parental levels of education, make a significant contribution to this mid-range model of search?

As stated earlier, three background variables (gender, father's level of education, and student grade point average) were significantly related to both latent constructs of STUDENT ATTITUDE and PARENTAL SUPPORT. The remaining background variables were mother's level of education and student ethnicity. Mother's educational level was significantly related to the PARENTAL SUPPORT construct and student ethnicity was significantly related to the STUDENT ATTITUDE construct.

The first background variable in the model is gender. Gender is significantly and positively related to STUDENT ATTITUDE (see Figure 2). The positive relationship to STUDENT ATTITUDE suggests that females have a stronger commitment to education beyond high school. More specifically, female students are more likely to be enrolled in college preparatory curricular tracks, think more about their education after high school, and talk more with parents about their after-high-school plans. This result provides an interesting contradiction since gender is negatively related to the PARENTAL SUPPORT construct. This negative relationship suggests that female students would receive less PARENTAL SUPPORT for their after-high-school plans than their male counterparts while possessing a stronger commitment to their plans. Recall that PARENTAL SUPPORT consists of the amount of support indicated by parents for their child's educational plans, the amount of money they would be willing to

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contribute to their child's education, and the amount of support students perceive from parents for their educational plans.

The next background variable, father's level of education, was significantly and negatively related to STUDENT ATTITUDE (see Figure 2). The higher the level of education for fathers is indicative of a positive relationship. Since father's level of education is negatively related to STUDENT ATTITUDE, fathers with lower levels of education appear to positively impact STUDENT ATTITUDE. The level of parental education suggests that lower levels of father's education manifests itself in a supportive interaction between father and child. This finding seems counter-intuitive since father's with higher levels of education should recognize the value of education and inculcate these values to their children. A significant correlation ($p<.01$) exists between father's level of education and parental income. It can be asserted that based on the correlations between income and education, fathers with lower levels of education, and likely lower financial resources, are more supportive of more education for their children. These fathers may recognize the importance of additional education and take it less for granted.

Father's level of education was positively related to the PARENTAL SUPPORT construct. Recall that PARENTAL SUPPORT consists of the amount of parental encouragement for after-high-school plans as reported by the student, the amount of parental encouragement for after-high-school plans as reported by the parent, and the amount of money parents are willing to pay for their child's education after high school. The positive relationship suggests that father's with higher levels of education provide greater levels of PARENTAL SUPPORT. This finding suggests that father's with higher levels of education support their child's educational plans, are willing to contribute increased levels of financial support for these plans, and have children who perceive higher levels of support from their parents for their educational plans.

The third background variable, student grade-point-average, was significantly and positively related to the STUDENT ATTITUDE construct at the $p<.001$ level. The higher the GPA, the stronger the STUDENT ATTITUDE about postsecondary plans. This result is consistent with other research related to GPA and postsecondary

educational plans (Hossler & Stage, 1988). There is also a positive and significant relationship between GPA and PARENTAL SUPPORT at the $p<.05$ level. This suggests that as student GPA increases so does PARENTAL SUPPORT. Furthermore, a reciprocal relationship between these variables is likely since the more support students perceive for their postsecondary educational plans, the greater likelihood of improved grades. Since PARENTAL SUPPORT directly affects STUDENT ATTITUDE, student GPA not only affects STUDENT ATTITUDE directly but also impacts STUDENT ATTITUDE mediated through PARENTAL SUPPORT.

The final two background variables are mother's level of education and student ethnicity. Mother's level of education was not significantly related to the STUDENT ATTITUDE construct, however, was positively related to PARENTAL SUPPORT. Since mothers were more likely to complete the parent survey, and two of three variables that makeup the PARENTAL SUPPORT construct are from the parent survey, then mother's education is likely affecting STUDENT ATTITUDE but mediated through PARENTAL SUPPORT. It is interesting to note the difference between the effects of mother's education and father's education. The correlations between these two variables was 0.652 and highest among all the variables in the study. Furthermore, the combined support of both parents appears to be stronger for male students than female students; males have more PARENTAL SUPPORT, father's education has a positive impact on PARENTAL SUPPORT, and mother's education has a positive impact on PARENTAL SUPPORT.

Furthermore, the high likelihood of mothers completing the surveys suggests that the construct PARENTAL SUPPORT is more reflective of the mother's support; it was estimated that 67% of the parent surveys were completed by mothers. Following this line of reasoning leads to questions about mothers support for their daughter's educational plans. Bateman (1991) and Hossler, Schmit, Vesper & Bouse (1990) found similar results for female students in their studies, concluding that women need more sources of support than men to maintain their postsecondary plans.

The final background variable, student ethnicity, is negatively and significantly related to the STUDENT ATTITUDE construct; student ethnicity was a dichotomous

variable divided between majority and minority students. This suggests that minority students have a stronger commitment to postsecondary plans than their caucasian counterparts. This is consistent with Hossler and Stage (1987) who report that ninth-grade minority students reported thinking more about postsecondary education than their caucasian counterparts.

One final note about the background variables centers on the lack of relationship between the background variables and the SEARCH construct. The model was initially designed with relationships indicated between SEARCH and the background variables. In later iterations, the investigator simplified the model and eliminated these relationships. The researcher made this decision based on the confirmatory ability of LISREL rather than on theory. The intention was to let the LISREL program point to the obvious relationship that certainly existed between the background variables and the SEARCH construct; the background variables were posited to have a direct affect on SEARCH. However, the results of the analysis indicate that the background variables are mediated through the other latent constructs of STUDENT ATTITUDE and PARENTAL SUPPORT. This was unexpected but did confirm the original relationship of the background variables to the two other latent constructs of the model.

Based on the results highlighted above, research Question 4 was answered in the affirmative. Three variables (gender, feduc, and GPA) significantly affected both STUDENT ATTITUDE and PARENTAL SUPPORT. Four variables (gender, feduc, GPA, and meduc) significantly affected the PARENTAL SUPPORT construct. And, four variables (gender, feduc, GPA, and sethno) significantly affected the STUDENT ATTITUDE construct.

The next construct for discussion in Figure 2 is STUDENT ATTITUDE. Research Question 1 focuses on STUDENT ATTITUDE and is depicted thus:

Question 1: Do the following variables associated with the STUDENT ATTITUDE construct make a significant contribution to this mid-range model of search?

a. students who think a great deal about their after-high-school plans,
b. students who take a college-track high school curriculum, and
c. students who talk more with their parents about their after-high-school plans.

Variables in Question 1 were strong indicators of a positive student attitude toward

postsecondary education. Students who were in the college curricular track in high school and who have been thinking a great deal about their after-high-school plans are thought to have stronger commitments toward their plans. While in the tenth grade, students also appear to talk more with their parents about their after-high-school plans. It cannot be determined by the data whether parents have the information needed to provide guidance to students in actualizing these plans. Furthermore, it is unclear whether students will continue to talk more with parents about their plans in the remaining years of high school.

The STUDENT ATTITUDE construct appears to make a significant contribution to the mid-range model of search. This construct significantly affected the SEARCH construct and was significantly affected by PARENTAL SUPPORT; both of these relationships were at the $p<.001$ level of significance. The STUDENT ATTITUDE construct also explained 10% of the variance within the model. The indicator variables of high school curricular track, the amount of thinking a student does about their plans, and the amount of talking a student does with parents are good measures of the construct and significantly add to the model. Research Question 1 is answered in the affirmative.

The next construct for consideration in Figure 2 is PARENTAL SUPPORT. Research Question 2 was associated with this construct and was depicted thus:

Question 2: Do the following variables associated with the PARENTAL SUPPORT construct make a significant contribution to this mid-range model of search?

a. students who perceive higher levels of parental encouragement for their after-high-school plans,
b. students whose parents indicate higher degrees of encouragement for the students' after-high-school plans, and
c. parents' willingness to spend larger amounts of resources for postsecondary education.

The measurement variables associated with the PARENTAL SUPPORT construct were strong indicator variables. As a construct, PARENTAL SUPPORT does contribute to the mid-range model of search with a significant impact on the STUDENT ATTITUDE construct at the $p<.001$ level. While there is no relationship between PARENTAL SUPPORT and SEARCH as indicated on the first model (see Figure 1),

the relationship between PARENTAL SUPPORT and STUDENT ATTITUDE was indicated by the LISREL program. It was initially theorized that PARENTAL SUPPORT could have an independent impact on the SEARCH construct. The design of the model suggested such a relationship, however the data did not support this supposition. Based on the modified model of search, Research Question 2 is answered in the affirmative.

One additional comment about Research Questions 1 and 2. As depicted in the original model (see Figure 1), a relationship was theorized to exist between the background variables and SEARCH. Since no relationship existed, the constructs of STUDENT ATTITUDE and PARENTAL SUPPORT gain greater importance within the model. The background variables do impact the SEARCH construct but only mediated through the STUDENT ATTITUDE and PARENTAL SUPPORT constructs. This adds further significant to these constructs and supports their contributions to this mid-range model of search.

Research Question 3 focused on the contribution of the SEARCH construct to the mid-range model of search. Research Question 3 was stated thus:

Question 3: Do the following factors associated with the SEARCH construct make a significant contribution to this mid-range model of search?

a. students with a preference for institutional size, location, distance from home, reputation, social activity programs, cost, school that parents like, and school with good job placement;
b. students who have thought about what institutions they might attend; and
c. students who have listed specific postsecondary institutions that are of interest.

The factors associated with SEARCH were good indicators variables for this construct. SEARCH as a construct is reflected by the specific college attributes that students deem as important, the amount of thinking students have done about postsecondary institutions, and the number of institutions students have included in their choice set. The SEARCH construct makes a significant contribution to the mid-range model.

The final research question in this study is Question 5 and was depicted thus:

Question 5: Does this proposed mid-range model of search make a significant contribution to the understanding of the search stage of student college choice?

This proposed mid-range model of search does have the potential of making significant contributions to the understanding of the search stage of student college choice. Variables have been identified in this exploratory model to help guide further research in the study of the search stage. The overall model was strong, with the STUDENT ATTITUDE construct explaining 10% of the variance and the PARENTAL SUPPORT construct explaining 4% of the variance. For this group of tenth graders the model explained 30% of the variance in the SEARCH activities.

This mid-range model of search does withstand the statistical test using LISREL and is a viable model to represent the search stage of student college choice. As Pedhazur (1982) suggests, statements made about a theory being consistent with data should be understood to mean that the theory withstood the statistical test, in other words, it has not been disconfirmed. A purpose of this study was to test a theoretical model using an advanced statistical procedure. LISREL provided an effective statistical method for testing this mid-range model of search. The researcher made several changes in the model which improved the explanatory power of the model and provides further guidance in advancing the study of student college choice. Based on the affirmation of Research Questions 1 through 4 and the preceding discussion, it follows that Question 5 is affirmed.

The variables and constructs in this study do add significantly to the understanding of the search phase of Hossler and Gallagher's (1987) three-stage model of student college choice. The affirmed research questions support the following conclusions:

1. Female students appear to have a stronger commitment toward their after-high-school plans.

2. Female student receive less support from parents for their after high school plans.

3. Male students appear to receive stronger amount of parental support than female students.

4. Mothers appear to be more supportive of their sons' educational plans than their daughters.

5. Fathers with lower levels of education provide more encouragement for their child's educational plans.

6. Fathers with higher levels of education provide more support for education in financial ways.

7. GPA has a significant impact on a student's commitment toward their after-high-school plans and, reciprocally, on the amount of parental support received.

8. Minority students have a stronger commitment toward their postsecondary plans than their majority counterparts.

9. Student attitudes regarding their postsecondary educational plans are influenced by the gender, parental educational levels, GPA, and student ethnicity.

10. Student attitudes regarding their postsecondary educational plans are also influenced by parental encouragement for plans, by student's perception of parental encouragement, and by the amount of parent's financial support for these plans.

11. The search stage of student college choice has structure and can be represented by a mid-range model.

Implications

The results of this exploratory study raised more questions than it has answered. Many of these questions have implications for public policymakers, parents, high schools, postsecondary institutions, and researchers. The implications will be guided by the conclusions cited above.

Female students appeared to have a stronger commitment toward their after-high-school plan while receiving less parental support. This raises a question about the female student's ability to maintain this commitment throughout the remaining years of high school. Three outcomes are possible. First, the lack of parental support may reduce the female student's postsecondary aspirations in the remaining years of high school. The significance level of this variable suggests a difference between males and females at the tenth grade; especially compared to the significance level of parental support for males. The second outcome is that parental attitudes may change to support

the female student and increase or maintain her commitment toward postsecondary plans. The significance level of parental support for males makes this less likely, however, interventions might help improve parental support for education regardless of gender. It must be noted that parents can add support for females without reducing support for males. The third outcome is that a female student may find other sources of support for her educational plans. Hossler, Vesper, et. al (1990) report that the support of friends is important for females. Interventions to change parental expectations of female students should occur at the high school level and within communications to the home.

Another implication centers on the educational levels of fathers. Do fathers with lower levels of education talk with their children more about their after-high-school plans? or, do children of fathers with higher levels of education make the assumption that they will pursue postsecondary education and therefore talk less with their parents? The data supports the assertion that less educated fathers appear to impact the STUDENT ATTITUDE construct more. What is unclear is whether fathers with lower levels of education talk more with their children or whether they are encouraged to take college prep curricula and to think about their plans more.

Since the PARENTAL SUPPORT construct consists of measurement variables relating to the amount a parent is willing to pay for their child's education after high school, and the amount of parental encouragement and the student's perception of that encouragement, a further question might be asked: Are the correlations among parental education a result of support for student's education, or, a recognition of the costs associated with postsecondary education?

College educated parents likely realize that schooling is affordable since they have experienced the real costs. Non-college parents may be less informed and overestimate the cost of sending their children to college. Many low-income parents may want to contribute more to their child's education but do not have the means to do so. Whether this kind of support from fathers with lower levels of education can sustain itself through the remaining years of high school is an interesting question for further study. This may also suggest that early financial aid information during this stage could keep student

attitudes high and increase the amount of parental support for students.

Another implication of this study focuses on minority students. Minority students appear to have a stronger commitment toward postsecondary plans. It is unclear, however, whether this attitude can be sustained through the remaining years of high school. Brown (1982) reported that minority students are actually less likely to follow through on their postsecondary educational plans. Sustaining a positive attitude toward these educational goals remains a large issue for higher education.

Finally, the testing of a model of the search stage of student college choice has great possibilities. It is still unclear why the PARENTAL SUPPORT construct was not related to SEARCH, however, there was a positive and significant relationship between the STUDENT ATTITUDE and SEARCH. Further testing of the model may support the assertion that the search process is more linear than first theorized. Since there is no relationship between the PARENTAL SUPPORT construct and the SEARCH construct, the PARENTAL SUPPORT construct may precede STUDENT ATTITUDE.

The results of this study offer a number of insights for public and institutional policymakers and researchers. These include the following recommendations.

Recommendations for Policymakers

- This research suggests that parents play a key role in helping students actualize their plans for continued education after high school. Early awareness programs must include parents who have a great impact on this middle stage of student college choice.

- Lower income-level parents appear to rely on non-financial means of support their child's postsecondary educational plans. Information during the early stages of decision making may provide a positive and significant impact on the continued educational plans of their children.

Recommendations for Secondary and Postsecondary Institutions

- Institutions must be aware of the plans of females students in order to increase or sustain their planning for postsecondary education.

♦ High schools and postsecondary schools could combine efforts to help parents encourage their children to actualize their postsecondary educational plans. A specific focus would be on the awareness of financial aid options for those families who lack the financial resources but who highly support their child's educational goals. This information must be given during the 9th and 10th grade so the impact of parents will continue to support and strengthen the child's plans.

♦ Special attention is needed for minority students in the early years of high school. These students appear to be highly committed toward postsecondary education in the early years of high school. Continued assistance to maintain, increase, and actualize these plans is needed.

♦ Students who have highly educated parents may also need support to maintain their plans for education beyond high school.

Recommendations for Researchers

♦ The guidance provided by this study supports the Hossler & Gallagher (1987) three-stage model of student college choice. The study also provides support for a mid-range model of the search stage of student college choice. Researchers can extend this mid-range model of search to determine if the search stage is linear as the data suggests.

♦ Additional research on this construct may provide guidance in discriminating between different levels of search -- attentive, active, and interactive. Researchers are encouraged to build multiple models of search. A model for each level of search should be considered.

♦ Researchers would be encouraged to use longitudinal datasets to explore this stage of college choice. Questions raised in this study could be added to future surveys to determine if, and what kind of information students need in the early years of high school.

♦ As more researchers focus in on this decision making process, additional variables could be added which may help identify factors that will sustain the postsecondary educational plans among ninth-grade students throughout their high school career. It is important to discover additional factors that affect the search activities of students.

♦ Researchers are also encouraged to test new models with advanced statistical procedures. The results may confirm results similar to this study and/or provide new views of this developmental process, and, finally,

- Researchers are encouraged to test this mid-range model between different sub-groups. Variations may exist between different racial groups, between males and females, among different income levels, and between different academic abilities.

Conclusion

In conclusion, the study provides guidance for action to assist students in the developmental stage of student college choice. This study is intended to be a beginning in the study of early stages of the college choice process. If the postsecondary educational goals of Indiana ninth-grade students remain high, then every effort to sustain these goals and turn them into actualized plans will benefit each student, the state of Indiana, and the nation. The author hopes that this mid-range model will guide further efforts to assist young people in this transitional, decision-making process of college choice.

In closing, the researcher would like to borrow from the final paragraph of Pearce's (1977) book and conclude:

> "If I have glossed over some points, ignored minor discrepancies, used or misused materials selectively, so be it. My task has been to sketch the picture of nature of the SEARCH phase of the college choice process. This is a large terrain, and discrepancies are probably inevitable. But I stand by my sketch of the Search phase and intend this paper to be an aid in the understanding the domain of student college choice."

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APPENDIX A

than Friday, February 1, 1987

STUDENT QUESTIONNAIRE

Your plans about your future are important to us! Please take a few minutes to answer several questions about yourself. When you are finished, please return this questionnaire in the postage paid, self-addressed envelope.

QUESTIONS ABOUT YOU

NAME: _____
First Middle Last

ADDRESS: _____
Street or Post Office Box

_____
City State Zip

TELEPHONE NUMBER: _____
Area Code Number

WHAT IS YOUR ETHNIC BACKGROUND?

- ☐ American Indian
- ☐ Alaskan Native
- ☐ Asian
- ☐ Pacific Islander
- ☐ Black
- ☐ Hispanic
- ☐ Caucasian

WHAT IS THE PRIMARY LANGUAGE SPOKEN AT YOUR HOME?

- ☐ English
- ☐ Spanish
- ☐ Other

WHAT IS YOUR RELIGIOUS PREFERENCE?

- ☐ Catholic
- ☐ Jewish
- ☐ Protestant
- ☐ Other
- ☐ None

DO YOU HAVE ANY OF THE FOLLOWING PHYSICAL/LEARNING DISABILITIES?

YES	NO	
☐	☐	Sight Impairment
☐	☐	Hearing Impairment
☐	☐	Mobility Impairment
☐	☐	Coordination Impairment
☐	☐	Speech Impairment
☐	☐	Systemic Impairment
☐	☐	Learning Disability
☐	☐	Other

QUESTIONS ABOUT YOUR FAMILY

IS YOUR FATHER: ☐ Living ☐ Deceased

IS YOUR MOTHER: ☐ Living ☐ Deceased

WHAT IS YOUR FATHER AND MOTHER'S MARITAL STATUS:

- ☐ Single
- ☐ Married
- ☐ Divorced
- ☐ Widowed

WHO DO YOU LIVE WITH?

- ☐ Both parents (father and mother)
- ☐ Mother
- ☐ Father
- ☐ Legal Guardian
- ☐ Other

QUESTIONS ABOUT YOUR SCHOOL ACTIVITY

WHAT IS YOUR GRADE POINT AVERAGE AT THE PRESENT TIME?

- ☐ Somewhere between A+ to A-
- ☐ Somewhere between B+ to B-
- ☐ Somewhere between C+ to C-
- ☐ Somewhere between D+ to D-
- ☐ Below D-

INDICATE THE AMOUNT OF YOUR PARTIC.PATION IN EACH ACTIVITY:

1 = Very Active 2 = Moderately Active
3 = Slightly Active 4 = Not Active

- ☐ Art
- ☐ Athletics
- ☐ Cultural/Ethnic Groups
- ☐ Debate/Speech
- ☐ Dramatics/Theater
- ☐ Church/Religious Groups
- ☐ Journalism
- ☐ Social Clubs (sororities, fraternities)
- ☐ Special Interest Groups (FFA, FTA, 4H, etc.)
- ☐ Music
- ☐ Radio/TV
- ☐ Student Government
- ☐ ROTC,AFROTC,NROTC

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QUESTIONS ABOUT YOUR FUTURE

HOW MUCH DO YOU THINK ABOUT YOUR PLANS AFTER HIGH SCHOOL?

- ☐ Constantly
- ☐ A great deal
- ☐ A moderate amount
- ☐ Very little
- ☐ Not at all

WHO HAVE YOU TALKED WITH THE MOST ABOUT YOUR PLANS AFTER HIGH SCHOOL?

- ☐ Parents
- ☐ Friends
- ☐ Teachers
- ☐ Guidance Counselors
- ☐ Others

WHAT ARE YOUR PLANS THE FIRST YEAR AFTER YOU LEAVE HIGH SCHOOL?

- ☐ Attend college/university
- ☐ Attend vocational, technical, trade or business school
- ☐ Enter military service
- ☐ Begin employment
- ☐ Self-owned business or farm
- ☐ Homemaking, full-time
- ☐ Other plans
- ☐ Undecided

WHAT IS THE HIGHEST LEVEL OF EDUCATION YOU EXPECT TO ACHIEVE?

- ☐ High school graduation
- ☐ Vocational/Technical certificate
- ☐ Two-year college degree (Associate degree)
- ☐ Four-year college degree (Baccalaureate degree)
- ☐ Graduate degree (Masters degree)
- ☐ Professional degree (M.D., D.D.S., Ph.D.)
- ☐ Undecided

RANK THE TOP THREE OCCUPATIONAL INTEREST AREAS YOU WOULD LIKE TO BE WORKING IN TEN YEARS FROM NOW?

RANKING	1 = First Choice	2 = Second Choice	3 = Third Choice

- ☐ Artistic (literary/visual arts, drama, music, dance, crafts)
- ☐ Scientific (physical/life sciences, medicine, and laboratory technology)
- ☐ Plants and Animals (animal care/training, plant care, and related areas)
- ☐ Protective (safety/law enforcement and security services)
- ☐ Mechanical (engineering, quality control, transportation, and related work)
- ☐ Industrial (production work, production technology, elemental work, etc.)
- ☐ Business Detail (administration, math/finance related work, clerical work, etc.)
- ☐ Selling (general sales and related work)
- ☐ Accommodating (hospitality services, personal care services, and passenger/customer services)
- ☐ Humanitarian (social services, nursing, therapy, specialized teaching services, etc.)
- ☐ Leading-Influencing (education, law, management and administration, communications, etc.)
- ☐ Physical Performing (sports and related areas)
- ☐ Other

STOP

FOR A MOMENT . . .

If you have NO INTENTION of continuing your education after high school, please answer this last question:

IF YOU ARE NOT PLANNING FURTHER EDUCATION AFTER HIGH SCHOOL, WHAT IS THE MOST IMPORTANT REASON?

- ☐ Cannot afford
- ☐ Not interested
- ☐ Begin immediate employment
- ☐ Work/travel before continuing education
- ☐ Other reason

■ ■ ■

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GO

If you think you will continue your education after high school, please answer the next four questions:

WHAT WOULD BE YOUR MOST IMPORTANT REASON FOR ATTENDING COLLEGE/UNIVERSITY?

- ☐ To get a good paying job
- ☐ To learn new things
- ☐ To meet new and interesting people
- ☐ To learn more about myself
- ☐ To have a good time
- ☐ Don't know what else to do
- ☐ Other reason

WOULD YOU NEED FINANCIAL ASSISTANCE TO ATTEND COLLEGE/UNIVERSITY?

- ☐ No. I would expect to pay all expenses with my parents' help and my own savings and earnings.
- ☐ Yes. I would need financial assistance, although my parents and/or I could pay some expenses.
- ☐ Yes. I would need financial assistance to cover all of my expenses.
- ☐ I am not sure.

RANK THE TOP THREE MAJORS YOU WOULD LIKE TO STUDY IN COLLEGE/UNIVERSITY:

RANKING	1 = First Choice	2 = Second Choice	3 = Third Choice

- ☐ Agriculture/Natural Resources
- ☐ Architecture
- ☐ Biological Science (biology, anatomy, genetics, etc.)
- ☐ Business/Management
- ☐ Communications (journalism, advertising, radio/TV, etc.)
- ☐ Computer/Information Services
- ☐ Education
- ☐ Engineering/Industrial Technologies
- ☐ Fine Arts (art, dance, music, photography, etc.)
- ☐ Foreign Languages
- ☐ Health Professions
- ☐ Home Economics
- ☐ Law
- ☐ Humanities (English, speech, philosophy, etc.)
- ☐ Library Science
- ☐ Mathematics
- ☐ Military Sciences
- ☐ Physical Sciences (physics, chemistry, geology, oceanography, etc.)
- ☐ Psychology
- ☐ Public Affairs (fire protection, law enforcement, social work, etc.)
- ☐ Recreation/Physical Education
- ☐ Social Sciences (anthropology, criminology, economics, geography, etc.)
- ☐ Theology
- ☐ Other

(O V E R)

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MARK ANY AREAS WHICH YOU MIGHT WANT FURTHER INFORMATION IN INVESTIGATING POSTSECONDARY OPPORTUNITIES:

- [ ] Career Options
- [ ] Postsecondary Opportunities
- [ ] Admission Requirements
- [ ] Financial Assistance
- [ ] Housing
- [ ] Academic Support Services (example: tutoring)
- [ ] Special Services for Handicapped or Disabled
- [ ] Special Programs for Good Students
- [ ] Correspondence Courses
- [ ] Athletics

THANK YOU

ANY QUESTIONS???
CALL TOLL-FREE (1-800-992-2076)

Please complete and return NO LATER than Friday, February 1, 1987.

PARENT QUESTIONNAIRE

FATHER'S NAME
(or LEGAL GUARDIAN) _____
First Middle Last

WHAT IS YOUR RELATIONSHIP TO
THE 9TH GRADE STUDENT: _____

WHAT IS THE SIZE OF YOUR FAMILY?

- ☐ Two
- ☐ Three
- ☐ Four
- ☐ Five
- ☐ More than five

ARE YOU A CITIZEN OF THE UNITED STATES?

FATHER		MOTHER
☐	Yes	☐
☐	No	☐

WHAT IS YOUR ETHNIC BACKGROUND?

FATHER		MOTHER
☐	American Indian	☐
☐	Alaskan Native	☐
☐	Asian	☐
☐	Pacific Islander	☐
☐	Black	☐
☐	Hispanic	☐
☐	Caucasian	☐

MOTHER'S NAME
(or LEGAL GUARDIAN) _____
First Middle Last

WHAT IS YOUR RELATIONSHIP TO THE
9TH GRADE STUDENT: _____

HOW MANY CHILDREN DO YOU HAVE ENROLLED IN POSTSECONDARY INSTITUTIONS (college, university, vocational/technical school)?

- ☐ None
- ☐ One
- ☐ Two
- ☐ More than two

WHAT IS YOUR RELIGIOUS PREFERENCE?

FATHER		MOTHER
☐	Protestant	☐
☐	Catholic	☐
☐	Jewish	☐
☐	Other	☐
☐	None	☐

DO YOU HAVE ANY OF THE FOLLOWING PHYSICAL/LEARNING DISABILITIES?

FATHER		MOTHER
☐	Sight Impairment	☐
☐	Hearing Impairment	☐
☐	Mobility Impairment	☐
☐	Coordination Impairment	☐
☐	Speech Impairment	☐
☐	Systemic Impairment	☐
☐	Learning Disability	☐
☐	Other	☐

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WHAT IS THE HIGHEST LEVEL OF EDUCATION YOU HAVE COMPLETED?

FATHER		MOTHER
☐	Grade school	☐
☐	Eighth grade	☐
	Some high school	☐
☐	High school diploma	☐
☐	Some college	☐
☐	Graduated from college	☐
☐	Post-graduate degree	☐

WHAT IS YOUR EMPLOYMENT STATUS?

FATHER		MOTHER
☐	Employed full-time	☐
☐	Employed part-time	☐
☐	Not currently employed	☐

WHAT IS YOUR OCCUPATION?

FATHER		MOTHER
☐	Business owner/manager	☐
☐	Clerical/sales worker	☐
☐	Factory worker/laborer	☐
☐	Farmer	☐
☐	Homemaker	☐
☐	Professional/technical worker	☐
☐	Skilled worker	☐
☐	Other	☐

WHAT IS YOUR ESTIMATED FAMILY YEARLY INCOME?

☐ Below $10,000	☐ $20,000-24,999	☐ $35,000-39,000
☐ $10,000-14,999	☐ $25,000-29,999	☐ $40,000-44,999
☐ $15,000-19,999	☐ $30,000-34,999	☐ $45,000-49,999
		☐ $50,000 or more

WHAT ARE YOUR EXPECTATIONS FOR YOUR 9TH GRADE SON/DAUGHTER'S EDUCATION?

- ☐ High school diploma
- ☐ Vocational technical certificate
- ☐ Two-year college degree (Associate degree)
- ☐ Four-year college degree (Baccalaureate degree)
- ☐ Graduate degree (Masters degree)
- ☐ Professional degree (M.D., D.D.S., Ph.D.)
- ☐ Undecided

MARK ANY AREAS WHICH YOU MIGHT WANT FURTHER INFORMATION IN INVESTIGATING POSTSECONDARY OPPORTUNITIES FOR YOUR 9TH GRADE SON/DAUGHTER:

- ☐ Career Options
- ☐ Postsecondary Opportunities
- ☐ Admission Requirements
- ☐ Financial Assistance
- ☐ Housing
- ☐ Academic Support Services (example: tutoring)
- ☐ Special Services for Handicapped or Disabled
- ☐ Special Programs for Good Students
- ☐ Correspondence Courses
- ☐ Athletics

. . . T H A N K Y O U!

Please return this questionnaire, along with the completed student questionnaire, in the postage paid, self-addressed envelope.

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APPENDIX B

Please complete and return NO LATER than Monday, March 2, 1987.

SECOND

STUDENT QUESTIONNAIRE

Last month you were sent a Student Questionnaire. We asked you to answer questions about your future plans after high school.

Below are a few more questions we would like for you to answer. When you are finished, please return this questionnaire in the postage paid, self-addressed envelope.

NAME: _____
First Middle Last

ADDRESS: _____
Street or Post Office Box

_____
City State Zip

WE WILL REFER TO "POSTSECONDARY INSTITUTION" MANY TIMES IN THIS QUESTIONNAIRE.

POSTSECONDARY INSTITUTION — A school offering education after high school. For example: colleges, universities, vocational/technical schools.

QUESTIONS ABOUT CHOOSING A POSTSECONDARY INSTITUTION

Rank the top three characteristics of a postsecondary institution which would be most important to you.

1 = First Choice 2 = Second Choice 3 = Third Choice

- ☐ Academic Reputation (for example: a college famous for courses which lead students to good jobs after graduation)
- ☐ Total Cost of Attending (for example: tuition, room, food, etc.)
- ☐ Availability of Financial Aid (for example: loans, scholarships, grants)
- ☐ Location (for example: close to home, close to a big city, etc.)
- ☐ Good Teachers
- ☐ Strong Athletic Programs
- ☐ Length of Academic Program (for example: one year, two year, four year)
- ☐ Religious Affiliation (for example: Baptist college, Catholic college, etc.)
- ☐ Social Activity Program (for example: fraternities, sororities, etc.)

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How far from home would you be willing to attend a postsecondary institution?

- ☐ Less than one hour
- ☐ One - two hours
- ☐ Two - three hours
- ☐ Three - four hours
- ☐ More than four hours
- ☐ No preference

Which city/town size would you prefer to live in while attending a postsecondary institution?

- ☐ Metropolitan (population 500,000 or larger)
- ☐ City (population 50,000-500,000)
- ☐ Small Town (population less than 50,000)
- ☐ Rural
- ☐ No preference

Which size postsecondary institution would you prefer to attend?

- ☐ Less than 1,000 students
- ☐ 1,000 - 4,999 students
- ☐ 5,000 - 9,999 students
- ☐ 10,000 - 19,999 students
- ☐ More than 20,000 students
- ☐ No preference

Where would you expect to live while attending a postsecondary institution?

- ☐ Live with parents or relatives
- ☐ Live on the campus in a dormitory
- ☐ Live in a fraternity or sorority house
- ☐ Live off the campus in a room or apartment
- ☐ Undecided

Would you like to participate in the following activities at a postsecondary institution?

Yes	No	
☐	☐	Art
☐	☐	Athletics
☐	☐	Cultural/Ethnic Groups
☐	☐	Debate/Speech
☐	☐	Dramatics/Theater
☐	☐	Church/Religious Groups
☐	☐	Journalism
☐	☐	Social Clubs (sororities, fraternities)
☐	☐	Special Interest Groups (Spirit/Pep Club, College Republican Club, etc.)
☐	☐	Music
☐	☐	Radio/TV
☐	☐	Student Government
☐	☐	ROTC, AFROTC, NROTC

-THANK YOU

ANY QUESTIONS???

CALL ICPAC TOLL-FREE (1-800-992-2076)

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Please complete and return NO LATER than Monday, March 2, 1987.

PARENT QUESTIONNAIRE

SECOND

FATHER'S NAME or LEGAL GUARDIAN: _____
First Middle Last

WHAT IS YOUR RELATIONSHIP TO THE 9TH GRADE STUDENT: _____

MOTHER'S NAME or LEGAL GUARDIAN: _____

WHAT IS YOUR RELATIONSHIP TO THE 9TH GRADE STUDENT: _____

WE WILL REFER TO "POSTSECONDARY INSTITUTION" MANY TIMES IN THIS QUESTIONNAIRE.

POSTSECONDARY INSTITUTION — A school offering education after high school. For example: colleges, universities, vocational/technical schools.

What would be your most important reason for your 9th grade child to attend a postsecondary institution?

- ☐ To get a good paying job
- ☐ To learn new things
- ☐ To meet new and interesting people
- ☐ To learn more about himself/herself
- ☐ To have a good time
- ☐ He/she doesn't know what else to do
- ☐ Other reason

Rank the top three characteristics which would be most important to you in helping your 9th grade child select a postsecondary institution.

1 = First Choice 2 = Second Choice 3 = Third Choice

- ☐ Academic Reputation (for example: a college famous for courses which lead students to good jobs after graduation)
- ☐ Total Cost of Attending (for example: tuition, room, food, etc.)
- ☐ Availability of Financial Aid (for example: loans, scholarships, grants)
- ☐ Location (for example: close to home, close to a big city, etc.)
- ☐ Good Teachers
- ☐ Strong Athletic Programs
- ☐ Length of Academic Program (for example: one year, two year, four year)
- ☐ Religious Affiliation (for example: Baptist college, Catholic college, etc.)
- ☐ Social Activity Program (for example: fraternities, sororities, etc.)

How far from home would you be willing for your ninth grade child to attend a postsecondary institution?

- ☐ Less than one hour
- ☐ One - two hours
- ☐ Two - three hours
- ☐ Three - four hours
- ☐ More than four hours
- ☐ No preference

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Which city/town size would you prefer your 9th grade child live in while attending a postsecondary institution?

- ☐ Metropolitan (population 500,000 or larger)
- ☐ City (population 50,000-500,000)
- ☐ Small Town (population less than 50,000)
- ☐ Rural
- ☐ No preference

Which size postsecondary institution would you prefer your 9th grade child attend?

- ☐ Less than 1,000 students
- ☐ 1,000 - 4,999 students
- ☐ 5,000 - 9,999 students
- ☐ 10,000 - 19,999 students
- ☐ More than 20,000 students
- ☐ No preference

Where would you expect your 9th grade child to live while he/she attended a postsecondary institution?

- ☐ Live with parents or relatives
- ☐ Live on the campus in a dormitory
- ☐ Live in a fraternity or sorority house
- ☐ Live off the campus in a room or apartment
- ☐ Undecided

How long have you been putting money aside for your 9th grade child's postsecondary education?

- ☐ I will not be able to put money aside for this purpose.
- ☐ I have not yet begun to put money aside for this purpose.
- ☐ I have been putting money aside for 1-2 years.
- ☐ I have been putting money aside for 3-5 years.
- ☐ I have been putting money aside for over 5 years.

Will you need help in securing funds to pay for your 9th grade child's postsecondary education?

- ☐ No. I expect to pay all expenses with savings and earnings.
- ☐ Yes. I will need some form of financial assistance, although I can pay some expenses.
- ☐ Yes. I will need financial assistance for all expenses.
- ☐ I am not sure.

. . . THANK YOU!

Please return this questionnaire, along with the completed student questionnaire, in the postage paid, self-addressed envelope.

ANY QUESTIONS???

CALL ICPAC TOLL-FREE (1-800-992-2076)

APPENDIX C

STUDENT QUESTIONNAIRE

INSTRUCTIONS: For each question, circle the letter that best describes your answer. Select one answer for each question.

1. How much do you think about your plans after high school?
   a. A great deal
   b. Some
   c. Very little
   d. Not at all

2. Who have you talked with the most about your plans after high school? Please circle one answer.
   a. Parents
   b. Friends in my high school
   c. Friends currently enrolled in college
   d. Other family members
   e. Teachers
   f. Guidance Counselors
   g. Others
   h. I have not talked with anyone

3. What are your plans the first year after you leave high school?
   a. Undecided
   b. Attend a college or university
   c. Attend vocational, technical, trade or business school
   d. Enter military service
   e. Begin employment
   f. Self-owned business or farm
   g. Homemaking full-time
   h. Work or travel, then continue your education
   i. Other plans

4. How certain are you about your plans after high school?
   a. Very certain
   b. Certain
   c. Not very certain
   d. Not at all certain

5. What is the highest level of education you expect to achieve?
   a. Undecided
   b. High school graduation
   c. Vocational/Technical certificate
   d. Two-year college degree (Associate degree)
   e. Four-year college degree (Bachelors degree)
   f. Graduate/Professional degree (Doctor, Lawyer, Engineer)

6. What type of high school courses are you currently enrolled?
   a. College track (courses to prepare you for college)
   b. Vocational/technical track (courses to prepare you for a job)
   c. General track (courses to complete high school requirements)
   d. Other (Please Specify)_____.
   e. Don't know

7. How much encouragement (support) from your parents have you received to continue your education after high school.
   a. strong encouragement
   b. encouragement
   c. I have not been encouraged nor have I been discouraged
   d. discouraged
   e. strongly discouraged

8. When did you first start thinking seriously about your plans after high school?
   a. This year (10th grade)
   b. In 8th and 9th grade
   c. In 6th and 7th grade
   d. It seems like I have always known what I was going to do
   e. I haven't started to think seriously about my plans

9. If you are not planning to continue your education after high school, please circle the most important reason for this decision. (DO NOT answer if you plan to continue your education--Go to question 11).
   a. I want to go to work/enter the military immediately
   b. I am not sure that I can get into a college or vocational school
   c. I cannot afford to continue my education
   d. I do not think I need more than a high school education
   e. I am tired of school and do not want to continue
   f. Other

10. From the list below please circle only one answer that might change your plans to continue your education after high school (DO NOT answer if you plan to continue your education--Go to question 11)
   a. If I thought I would have more money so I could afford to attend.
   b. If I started to earn better grades in high school.
   c. If I found a college or vocational school that offered courses related to my career plans.
   d. If the career I planned began to require more education.
   e. If I thought I would not be able to get a job when I graduate from high school.
   f. Nothing would change my plans.
   g. Other _____
      (briefly describe the reason)

****

If you DO NOT plan to continue your education please STOP. Do not answer the rest of the questions. THANK YOU FOR YOUR TIME AND EFF

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1. If you are planning to continue your education after high school, have you thought about what colleges or vocational schools you might attend?
   a. Yes, I have thought about it a great deal
   b. Yes, I have given this some thought
   c. No, I have not given this much thought
   d. No, I have not thought about this at all

2. If you have thought about where you would continue your education, please write the names of the colleges or vocational schools that you have thought about attending.

   a. _____

   b. _____

   c. _____

   d. _____

   e. _____

3. Who has provided the **MOST** information about the colleges or vocational schools you are thinking about attending (Please circle one answer.)
   a. friends
   b. teachers and counselors
   c. parents
   d. newspaper and television
   e. college athletic programs/recruiter
   f. my church
   g. college/vocational school sent me information
   h. a family member or relative who attends college
   i. a nearby college or vocational school
   j. Other (please name the source)_____

14. Who else has provided information about the colleges or vocational schools you are thinking about attending. (Please circle as many as apply.)
   a. friends
   b. teachers and counselors
   c. parents
   d. newspaper and television
   e. college athletic programs/recruiter
   f. my church
   g. college/vocational school sent me information
   h. a family member or relative who attends college
   i. a nearby college or vocational school
   j. Other (please name the source)_____

Questions 15 through 22 will describe some facts about colleges and vocational schools. Listed below are five possible responses to ea question. If this fact (question) is very important to you put an "a" in the space in front of the answer. If it is not important put "d" in the space provided. Use the list of answers below for each questions 15 through 22.

   a. very important
   b. important
   c. undecided
   d. somewhat important
   e. not important

___ 15. How important is it to you to attend a small college or vocational school (less than 5,000 students)?

___ 16. How important is it to you to attend a college or vocational school in a large city (50,00 people or more)?

___ 17. How important is it to you to attend a college or vocational school that will enable you to live at home an commute to classes?

___ 18. How important is it to you to attend a college or vocational school that is very well known (high quality)?

___ 19. How important is it to you to attend a college or vocational school that has many activities for students t participate in?

___ 20. How important will the cost of college or vocational scho be when yc_ are ready to decide where you will attend?

___ 21. How important will it be to you to attend a college or vocational school that your parents want you to attend?

___ 22. How important is it for you to attend a college or vocational school that will assure you job placement upon graduation?

Complete the following statement with one response from the above list a-e (a. very important, b.important, etc.).

23. In terms of importance, members of my community view education after high school as _____. (select a,b,c,d or e.)

THANK YOU

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PARENT QUESTIONNAIRE

****
****

CONSENT FORM

ase read the following statement before beginning the
stionnaire, and sign your name where indicated:

ave given my permission for my son/daughter to complete the
losed student questionnaire. In addition, I agree to be a part of
s study. I understand that the information from both
stionnaires will be used as part of a research study at Indiana
versity and that the names of all participants will be kept
fidential.

_____ _____
(name) (date)

****
****

TRUCTIONS: For each question, circle the letter that best
cribes your answer. Select one answer for each question.

What are your expectations for your son or daughter for the first year after high school?
a. Undecided
b. Attend a college or university
c. Attend vocational, technical, trade or business school
d. Enter military service
e. Begin employment
f. Self-owned business or farm
g. Homemaking full-time
h. Work, then continue education
i. Other plans

What is the highest level of education you expect your son or daughter to achieve?
a. Undecided
b. High school diploma
c. Vocational/Technical certificate
d. Two-year college degree (Associate degree)
e. Four-year college degree (Bachelors degree)
f. Graduate/Professional degree (Doctor, Lawyer, Engineer)

3. How much encouragement have you given your son or daughter to continue his or her education after high school?
   a. Strong encouragement
   b. Encouragement
   c. Neither encouraged nor discouraged
   d. Discouraged
   e. Strongly discouraged

4. Who have your son or daughter talked with the most about their plans after high school?
   a. Other family members
   b. Friends in their high school
   c. Friends currently enrolled in college
   d. Parents
   e. Teachers
   f. Guidance Counselors
   g. Others

Please skip question 5 if you think that your son or daughter wil continue their education after high school.

5. If you do not expect your son or daughter will continue his or her education after high school, please indicate the most important reason for this belief.
   a. He/she plans to work or enter the military immediately
   b. I am not sure that he/she would be admitted to a college or vocational school
   c. He/she cannot afford to continue his/her education
   d. I do not think he/she needs more than a high school education
   e. He/she is tired of school and does not want to continue
   f. Other

If your son or daughter does not plan to continue his or her education please do not answer the rest of the questions. Please sure to sign the consent form at the beginning of this questionna before returning it. THANK YOU FOR YOUR TIME AND EFFORT.

If you have thought about where you would like your son or daughter to continue his/her education after high school, please write the names of the colleges or vocational schools that you would like him/her to attend.

a. _____

b. _____

c. _____

d. _____

e. _____

The cost of attending college (excluding room and board) can be very different for different types of schools. From the range of costs below, please indicate how much you might be willing to spend to send your son or daughter to a college or vocational school.

a. $1,000 or less
b. $1,001 - 2,500
c. $2,501 - 4,000
d. $4,001 - 6,000
e. $6,001 - 8,000
f. $8,001 - 10,000
g. $10,000 or more

Will you need help in paying for your son's or daughter's college or vocational school education?

a. No, I expect to pay all expenses with savings and earnings.
b. Yes, I will need some form of financial assistance, although I can pay some expenses.
c. Yes, I will need financial assistance for all expenses.
d. I am not sure.

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Questions 9 through 17 describe some aspects of colleges and vocational schools. Listed below are five possible responses to each question. If this aspect is very important to you put an "a" in the space in front of the question; if it is not important put an "e" in the space provided. Use the list of answers below for each of the questions 9 through 17.

a. Very important
b. Important
c. Undecided
d. Somewhat important
e. Not important

___ 9. How important is it to you that your son or daughter attend a small college or vocational school (less than 5,000 students)?

___ 10. How important is it to you that your son or daughter attend a college or vocational school in a large city (50,000 people or more)?

___ 11. How important is it to you that your son or daughter attend a college or vocational school that will enable him or her to live at home and commute to classes?

___ 12. How important is it to you that your son or daughter attend a college or vocational school that is very well known (high quality)?

___ 13. How important is it to you that your son or daughter attend a college or vocational school that has many activities for students to participate in ?

___ 14. How important will the cost of college or vocational school be when your son or daughter is ready to decide where to attend?

___ 15. How important will it be to you that your son or daughter attend a college or vocational school that you approve of?

___ 16. How important is it to you that your son or daughter attend a college or vocational school that will assure him/her of a job after graduation?

Complete the following statement with one response from the above list a-e (a. very important, b. important, etc.).

___ 17. In terms of importance, members of my community view education after high school as _____ (select a,b,c,d or

Please be sure to sign the consent form at the beginning of this questionnaire before returning it. THANK YOU FOR YOUR TIME AND EFFORT.